Comparisons of Job Characteristics

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Systems Analysts (15-1051)

Compare Knowledge
Compare Skills
Compare Abilities
Compare Detailed Work Activities
Compare Tools and Technologies

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge — Similarity of Focus Occupation to Associated Occupation: 87

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Systems Analysts (15-1051)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Computers and Electronics	8.4	19.3	22.8	>>	Current knowledge level is likely more than sufficient
Customer and Personal Service	11.3	15.4	10.8	<<	Extensive education and/or training may be required
Education and Training	9.2	13.2	16.8	>>	Current knowledge level is likely more than sufficient
Administration and Management	8.4	11.3	11.5	0	Current knowledge level may be sufficient
Engineering and Technology	5.7	11.0	12.0	0	Current knowledge level may be sufficient
Telecommunications	3.9	6.8	11.9	>>	Current knowledge level is likely more than sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills — Similarity of Focus Occupation to Associated Occupation: 84

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Systems Analysts (15-1051)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Systems Evaluation	6.4	12.7	14.7	>	Skill level is likely sufficient
Active Learning	8.7	12.6	13.3	0	Current skill level may be sufficient
Systems Analysis	6.5	12.6	13.6	0	Current skill level may be sufficient
Operations Analysis	5.0	10.6	10.6	0	Current skill level may be sufficient
Quality Control Analysis	5.9	10.3	4.2	<<	Extensive development of skills in this area may be required
Programming	2.2	10.2	12.4	>	Skill level is likely sufficient

Technology Design	2.6	9.7	10.0	**0**	Current skill level may be sufficient
Troubleshooting	4.5	8.9	7.0	**<**	A higher skill level may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities — Similarity of Focus Occupation to Associated Occupation: 98

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Systems Analysts (15-1051)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Deductive Reasoning	10.6	13.9	14.6	**0**	Current ability level may be sufficient
Information Ordering	9.9	12.9	12.6	**0**	Current ability level may be sufficient
Fluency of Ideas	7.6	12.7	12.8	**0**	Current ability level may be sufficient
Category Flexibility	9.0	11.8	12.4	**0**	Current ability level may be sufficient
Originality	7.6	11.6	11.0	**0**	Current ability level may be sufficient
Flexibility of Closure	7.8	10.4	8.3	**<**	Some improvement in abilities may be required
Mathematical Reasoning	6.3	10.3	10.8	**0**	Current ability level may be sufficient
Speed of Closure	5.9	8.8	7.5	**<**	Some improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common — Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Systems Analysts (15-1051)

Work Activities	Exclusivity of Activity
Communicate technical information	4
Create mathematical or statistical diagrams or charts	43
Design computer hardware or software interface	87
Design computer programs or programming tools	92
Design data processing systems	92
Design data security systems	89
Develop mathematical simulation models	70
Develop or maintain databases	30
Develop tables depicting data	33
Follow data security procedures	77
Follow data storage procedures	75
Make presentations	13
Prepare technical reports or related documentation	22

Program computers for electronic engineering applications	87
Program computers using existing software	85
Program mainframe computer	84
Provide technical computer training	82
Resolve symbolic formulations in data processing applications	89
Test computer programs or systems	78
Use computer application flow charts	84
Use computer networking technology	81
Use computer programming language	82
Use computers to enter, access or retrieve data	3
Use geographical information system (GIS) software	72
Use interpersonal communication techniques	10
Use knowledge of mainframe computers	78
Use object-oriented computer programming techniques	85
Use project management techniques	47
Use relational database software	26
Use spreadsheet software	18
Use structural analysis techniques to analyze computer systems	89
Write business project or bid proposals	48
Write computer software, programs, or code	84
Write documentation for computer programming	87

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common	Similarity of Focus Occupation to Associated Occupation: 77

Focus Occupation: Computer and Information Scientists, Research (15-1011)
Associated Occupation: Computer Systems Analysts (15-1051)

Tools and Technologies	Exclusivity
Computers	1
Content authoring and editing software	1
Data management and query software	1
Development software	4
Industry specific software	1
Operating environment software	12
Projectors and supplies	13

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.